Remarks

Claims 1-3, 5-20, 23 and 24 are pending in the application. Claims 4, 21 and 22 have been cancelled. Claims 25-27 are new. Support for the claims can be found throughout the Specification, and in particular, page 11, lines 13-28, page 15, lines 17-27, and the Examples.

Claim Rejections under 35 U.S.C. §103(a)

The Office Action rejected claims 1-3, 5-10, 19-20 and 24 under 35 U.S.C. §103(a) as obvious over Crawley et al. (US 5,948,707) in view of WO 97/27775 (WO '775) and Lindquist. The Office Action recognizes that Crawley fails to explicitly disclose either the claimed aspect ratio or that the stems are integral with the backing layer.

The Crawley reference discloses certain non-slip, waterproof and water permeable fabrics made by applying a discontinuous coating of "dots" or other such shapes on one surface of a permeable film (see Crawley, e.g., Abstract). Crawley teaches the application of a discontinuous raised pattern by coating or printing methods (see col. 7, lines 5-10). These methods are known in the art for producing only relatively thin discontinuous coatings, i.e., an aspect ratio less than 1. The Office cites Crawley's disclosure at col. 7, lines 20-25 which describes, in only the most general terms, the application of several alternative geometries to hemispherical dots (having, at most, an aspect ratio of 1.0). Using the discontinuous coating methods described in Crawley would not produce a shape on the surface with an aspect ratio greater than 1. In light of the complete absence of any teaching or suggestion to make a raised pattern with an aspect ratio of at least about 1.25, Crawley is inadequate to render the subject matter of the rejected claims obvious. In order to provide an aspect ratio of greater than 1, a viscous elastomeric material would be necessary to maintain that aspect ratio prior to and during cure. However, Crawley states that the material he uses is cured at 160 degrees C (col. 8 line 25-26).

Moreover, Crawley does not teach or suggest stems formed integrally with the backing layer. Rather, use of stems formed integrally with the backing layer would destroy the functionality of Crawley. Crawley teaches a film or membrane with high MVTR, i.e., ePTFE, to allow moisture permeability through the uncoated portions.

(Col. 6, lines 17-24). A thin layer of adhesive, such as silicone or polyurethane, can be coated on one surface of the ePTFE to assist in adherence and moisture vapor permeability. The discontinuous coating in Crawley is formed using an elastomeric material, i.e., silicones. (Col. 8, lines 15-20). Forming stems integral with the backing layer would form a continuous coating of the same material that would defeat the moisture permeability taught by Crawley. The discontinuous patterns that Crawley teaches to preserve permeability would not create an article having the stems integral with the backing. It would simply be a backing with a pattern coated thereon.

The Examiner also recites Crawley to state "that the backing is water vapor permeable, thereby demonstrating the existence of micro-channels within the material." Applicants respectfully disagree. As shown in Figure 5A in Applicants' Specification, the microchannels are formed on the surface of the material, and use capillary action to transport fluid across the material. In contrast, Crawley makes no disclosure of structure that would form microchannels, and further requires that the material he uses be water impermeable. Thus, "water vapor permeability" of Crawley as identified by the Examiner is unrelated to the presence of microchannels on a material to direct fluid transfer as provided by the Applicants. See Specification, page 10, lines 1-6.

Lindquist is cited in the Office Action with "equivalent teachings" to Crawley. Lindquist teaches a discontinuous coating of foam on a substrate such as a gauze or open mesh fabric. Like Crawley, the foams of Lindquist are coated on the surface of the backing, not integral with the backing. Note that Lindquist employs a low viscosity waterborne latex to form the elastomeric foam (Col. 3 lines 13-26). Lindquist further states (Col. 4 line 49) that the rubbery elastomer penetrates into the interstices of the fabric and when cured firmly secures it to the fabric. If the latex viscosity is low enough to penetrate into the fabric backing by capillary action, the resulting aspect ratio of any discontinuous coating would necessarily be very low. The arguments against Lindquist are equally applicable to the arguments against Crawley.

The WO '775 reference is cited by the Examiner to provide an aspect ratio exceeding 1.25. WO '775 provides a frictional interface between two surfaces with both surfaces having protrusions in a fixed array that interlock or interdigitate when

the surfaces are contacted. As discussed above, the Examiner has failed to point to any motivation in Crawley to combine the references to come up with integrally formed stems that have an aspect ratio of at least 1.25.

For at least the foregoing reasons, Applicants submit that the rejected claims are patentable over Crawley in view of WO 97/27775 and Lindquist.

The Office Action rejected claims 11-18 under 35 U.S.C. § 103(a) as obvious over the disclosure of Crawley in view of WO '775 and Lindquist and further in view of Lind (US 4,204,532) to teach "a fenestration material with a scrim reinforcement." Claim 23 was also rejected under 35 U.S.C. §103(a) over the disclosure of Crawley in view of WO '775 and Lindquist and further combined with Chen (US 3,972,328). Because none of the cited secondary references cure the defects of Crawley and Lindquist, the rejected claims are also patentable over Crawley and Lindquist in view of the Lind and Chen references. Reconsideration and withdrawal of the rejections based on the above references are requested.

Respectfully submitted,

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